SKYSPECS

Scaling with confidence

The renewable energy back & middle office of the future

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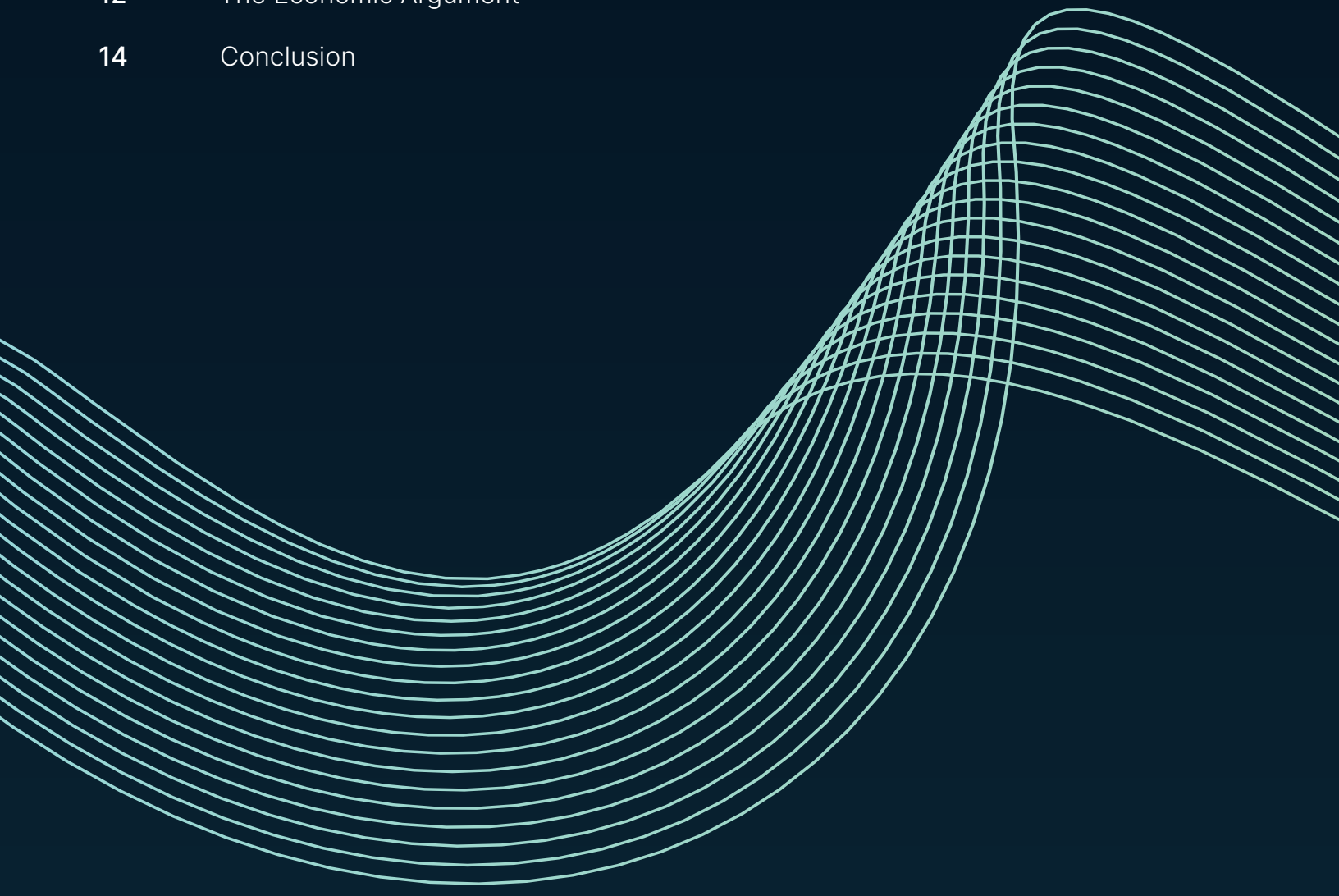


Abstract

One year into the “decade of action”, which will see renewable electricity supply go from 26% to 57% of global power[1], we review how asset managers can scale into this USD 10.3 trillion opportunity. Like other real asset classes including aviation and real-estate, the renewable sector will go through a maturity curve, adopting new workflows and systems to enable higher efficiencies and unlock the value in the data.

The technical/operational side of renewable energy asset management has been the focus to date, ensuring availability and performance is as high as possible, leveraging predictive analysis models, etc. On the flip side, financial and commercial asset management has still some way to go.

As the industry moves to a post-subsidy regime, portfolios of assets run the risk of both volume – due to weather, and price risk – due to the volatility in the wholesale markets, making cash management and forecasting more difficult.

Investor confidence, a must-have if we are to continue the deployment of renewables to meet global targets, needs to be maintained. In this document we explore how to scale with confidence and accelerate the adoption of financial best practices in asset management in the sector.

1. USD 10 trillion of fossil fuel investment must be redirected towards energy transformation by 2030

The Big Change

As renewable energy markets move from subsidy to non-subsidy regimes and evolve to be more competitive, asset managers must not only change their operations, but they must find ways to leverage them.

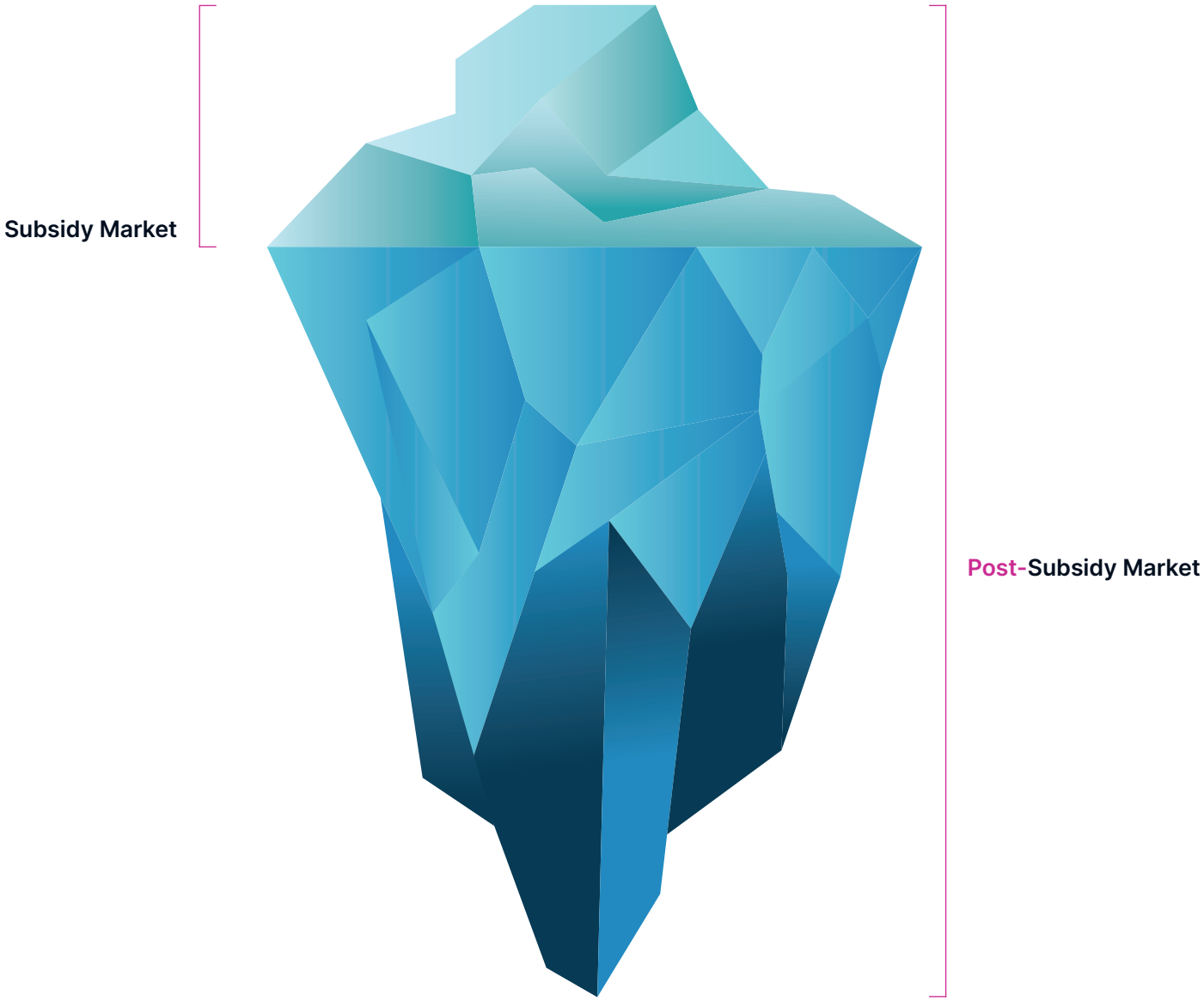
Managers must invest in back and middle office solutions. The traditional thinking that these functions are solely cost centers, the “plumbing” behind the real business of asset management, needs to change. Integrated workflows and supporting systems that tie together the back, middle and front office are the infrastructure for competitive asset management and the bedrock for good compliance and risk management. The ability to leverage data, especially in a post-subsidy world, with investor expectations and regulatory oversight increasing, is key to growing AUM.

The “intelligence valley” between the front, middle and back office can (and must) be bridged. Leading managers have already realized this ,and are investing to unlock the value within. They are preparing for the requirements of the new post-subsidy world where data needs to flow in real-time, capital efficiency becomes more important than ever, and new regulatory requirements increases the demand for traceability of the underlying investment information. Investors will also seek higher levels of transparency of information, which will enable them to assess risk adjusted returns more accurately.

Enterprise risk practices and reporting requirements will create a demand on the middle-office that can only be serviced with 100% standardization of data organized to support extracting performance insights. Data governance and quality will be critical when facing an increasingly complex set of financial instruments (hedging instruments), multiple revenue streams due to co-location, and hybridization scenarios and reinvestment possibilities.

In this e-book, we outline the journey the back and middle office need to go on, including addressing the following:

- What the current state-of-play is?
- Where to start?
- How can more value be unlocked?
- The economics of making the change?



The opportunity is to develop workflows and systems to support:

Targeting Non-Subsidy Assets

which require more

Active Management

as they will have

Tighter Margins

to

Grow AUM

The Old Approach and Why It Has Failed

GIGO or “Garbage-In Garbage-Out”

There is an expectation that the middle-office should produce reports and insights to support the growth of the asset management business. It is supposed to be the consolidated dashboard for the business, summarizing the raw data coming from the back-office engine room. But the middle-office suffers from being more fluid in nature and ‘wollier’ in structure than the front and back-offices. It also suffers from GIGO, as the systems that feed the middle-office typically contain unstructured and inaccurate data. Thus, with the resulting questionable reports and insights, confidence dips, and to compensate, multiple other systems pop-up in the front and back-office. With multiple versions of the “truth” the value of the middle-office diminishes and their role in the organization is often bypassed.

Frustration builds. Attempts to overcome the situation by implementing expensive systems and business intelligence (BI) projects inevitably fail, and the demand for reliable results managers seek eludes them.

The Route Cause

Until GIGO is solved:

- Data and insights will always be questionable;
- Time to report, and compensate for GIGO, will be long and costly;
- Audits will be expensive;
- Financial risk will be higher than investors expect;
- The business will be unable to react quickly to market and regulatory changes;
- Scaling will be costly;

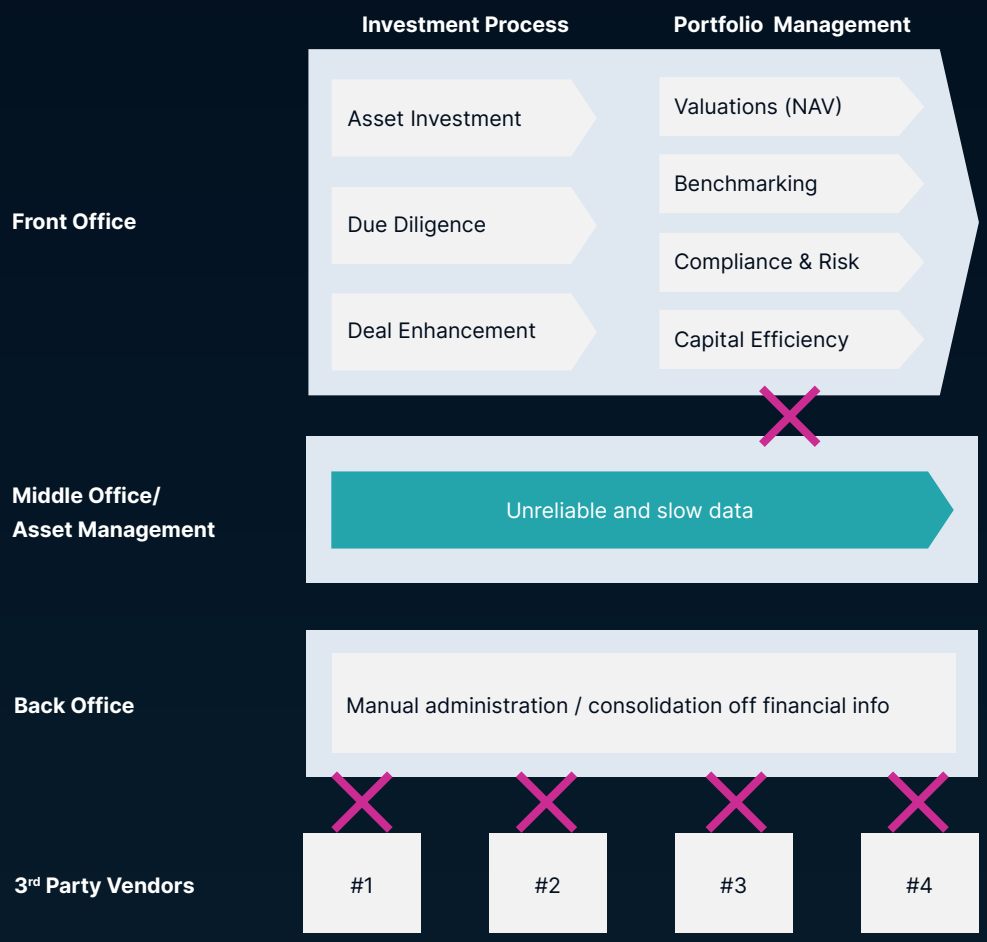
However, the state-of-play today is that personal data-stores, large Excel files, and sometimes visualization tools like Power BI, have become commonplace. What the individual user gains in the short term, the business loses in data governance, ability to reconcile information and enterprise knowledge. The cost associated with data and effort duplication is high plus, like in the middle office systems, GIGO still prevails.

Common Pain Points Across the Industry

1. Getting an accurate portfolio cash position.
2. Forecasting cash requirements to the end of a period.
3. Signing off on pay runs with confidence.
4. Creating budgets quickly that are an accurate representation of the underlying contracts.
5. Misreporting of revenue and/or confusion with cash receipts.
6. Incorrect calculation and budgeting of contract payments (O&M and leases).
7. Timely and efficient production of reports (banking, investor & NAV, management etc.).
8. Inconsistent recording of financial journals.
9. Consolidating portfolio financials and KPI.
10. Benchmarking of costs and suppliers across the portfolio or against market to drive down capex and opex costs .
11. Existing systems don't cater for HoldCo, DevCo, SupplyCo, DebtCo, GenCo structures or co-location opportunities, multi-metered sites and/or multiple off-take agreements per site.
12. No industry specific dashboards to support oversight of a portfolio.
13. No single source of truth, with drill down, for portfolio managers.
14. Resource intensive audits.
15. Slow to surface data insights and intelligence to help the front-office.
16. Stretched and stressed resources.
17. Key person risk and hiring of new people creates a step cost to the business.

Despite the low transaction volume within the individual SPVs, a holistic approach to workflows and systems is required. The nuances of how renewable energy assets are accounted for, the weather dependent revenue line and volume of SPVs in variety of structures, including joint ventures, requires industry specific solutions.

The Link Between the Back and Front Office Is Broken



In a lot of cases the intelligence link is broken making:

Cash forecasting and upstreaming, oversights of pay runs and compliance, benchmarking costs and suppliers, NAV calculations and budgeting

all a challenge and frustration.

Breaking Free and Embracing Workflows

To break-free from the status-quo, asset managers must consider how they operate in terms of workflows i.e. outcomes that are driven by connecting the dots further down the chain, rather than discreet jobs to be done. How do established investment firms break free of this model? The answer is to centralize data management, data stewardship and data governance and to report data to stakeholders through an intuitive user interface.

For the renewable energy industry, ultimately the answer is to either centralize the management or centralize-and-outsource the management of the financial workflows through integrations to enable scale. This leads to the highest degree of benefits, lowest cost and most flexibility. And this approach can be phased over a relatively short period of time, with big wins to the business available even after one or two quarters.

Example #1: Cash Forecasting with Accuracy

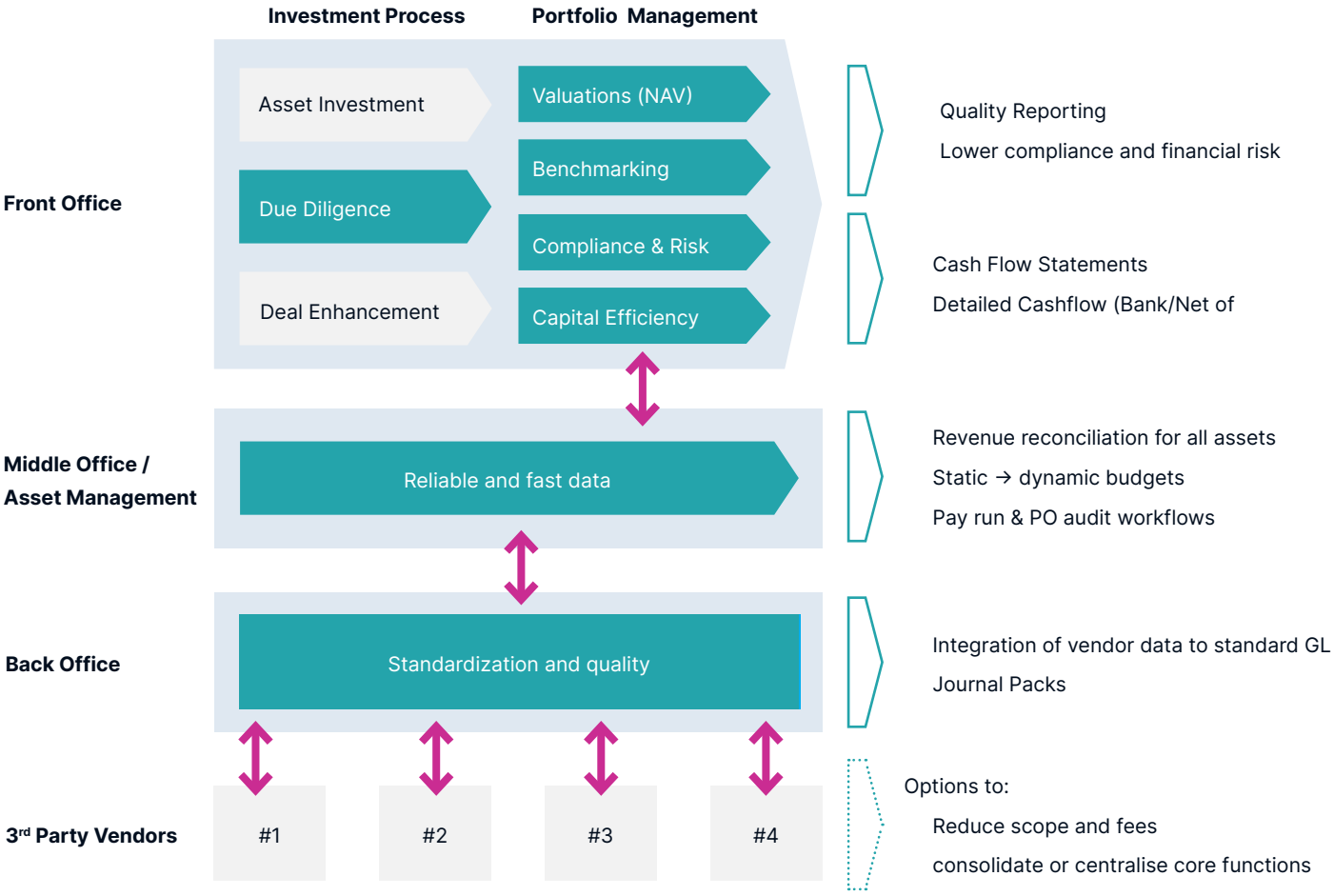
Most middle office teams come under pressure to provide cash reports to answer typically three questions:

1. Can we make investor distributions this quarter?
2. Can we acquire a new asset with the balance of cash we have within the multitude of bank accounts?
3. Do we have enough to pay pending invoices and maintain our banking covenants?

The objective is to make the available cash work for the investors optimally and reduce the cost of funds. Cash lying around in bank accounts, which could otherwise be back in the hands of the investors or used in the acquisition of another yielding asset, is a cost of capital that should be optimized. But cash forecasting is not trivial.

To forecast cash accurately, data standardization and integration of the budgets and financial accounting information is a given. On top of that, having an up-to-date balance for each bank account is required, as well as a systematic oversight of current and future pay runs. That should enable an accurate cash position to be monitored.

Applying a budget, set at the beginning of the year, to the current cash position can help with forecasting cash, but it tends to be unreliable given most budgeting processes are P&L budgets and not at the individual supplier level. The forecasts also don’t take into account the correlation of cash flows within a geographically spread portfolio. Lastly, they don’t often accommodate in-year purchase orders that sit outside of budget and their call on cash over time. Understanding the timing of when cash is needed for each asset at a supplier level, aggregated up is key to forecasting effectively, and workflows must be designed and systems built to enable this.



Adoption can be over several phases:

- Data standardization and integration
- Oversight of revenue, budgets & treasury
- Automation of asset accounting
- Portfolio optimization

Where to Start

The starting point is always the workflows. Each asset manager will have a slightly nuanced way of working and potentially different prioritizations, given their stage of development. For example, one asset manager could have outsourced their operational and commercial asset management to numerous 3rd parties complemented by an internal middle-office team and, on the other extreme, another could have built a comprehensive in-house team to cover the entire spectrum of requirements.

Typical workflows to think about are:

- How can more efficiently sign-off on pay runs?
- How can we effectively forecast cash (as outlined above) and increase cash utilization?
- How can we manage banking covenants and prevent technical breaches?
- How can we drive costs down by systematically benchmarking suppliers across the portfolio?
- How can we manage the financial compliance and audits more efficiently?
- How can we value our assets more efficiently?
- How do we prevent fines and jurisdictional risk?
- How do we tighten up on financial control and leverage our budgets?
- How can we enable ad-hoc reporting and mining for insights?
- How can we future proof our workflows for co-location opportunities?

Consulting an expert in financial workflows for renewable energy portfolios can short-cut this process and help you avoid the traps and explain where technology can be deployed to significantly increase efficiencies. The overarching objective is to find a set of workflows that achieve scale.

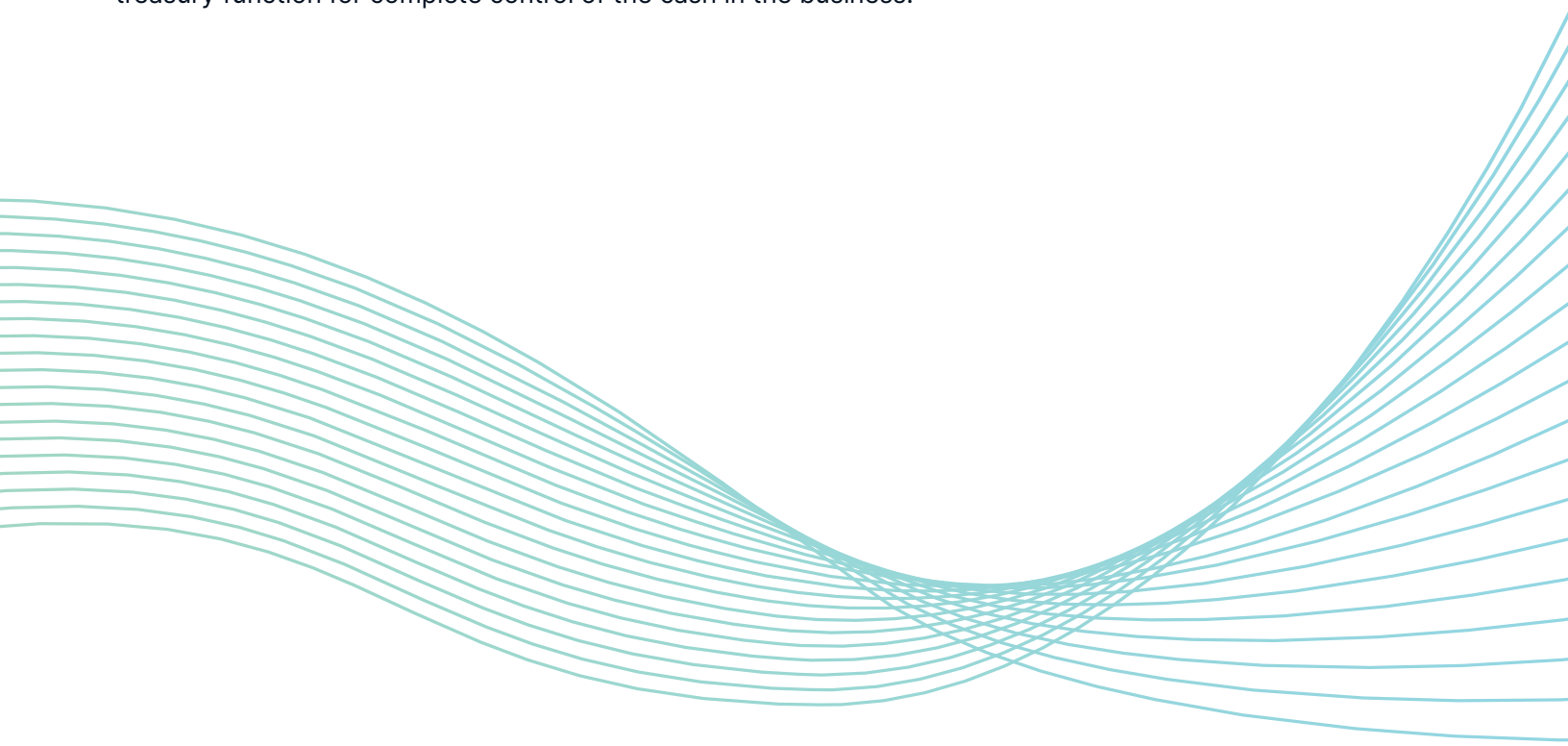
It doesn't need to be a big bang approach. Far from it. Starting with one or two SPVs can be enough to test and refine the workflows, build the business case and migrate the rest.

Example #2: Knowing what to pay

This workflow sounds simple. But it isn't. Not at scale. The very nature of renewable energy means that the revenue line can change quite significantly month-to-month. Given O&M contracts and leases are formulated using a combination of the revenue (not cash received), indexes, base rates, floor and caps, with step-ups and downs over time; it can become hard to know what to sign-off on without going back to the contract, which takes too much time. Deviation from budget needs exploration before anyone can have confidence in signing-off on the pay run. To compound matters, access to the underlying invoice is not always to hand.

On top of getting confidence in the amounts, there is also the controls to ensure that the recipient is legitimate and/or the bank details are correct. Signing-off on pay runs is a big risk to any asset manager and a workflow worth investing in to streamline and get right.

Imagine a workflow that resulted in automated pay runs based on a "smart-cashbudget" which changes in real-time to accommodate the latest revenue figures, indexation, approved POs and a codified version of the underlying contracts for each asset. Every variance is explained, every invoice is matched to expected expenditure per supplier, instantly available, and all the payment calculations and adjustments were documented and transparent for each of approval. The bank balances were also real-time ensuring funds available to make the payments. Such a workflow would de-risk pay runs and, eventually, enable centralization of the treasury function for complete control of the cash in the business.



Thinking of Scale

With efficient end-to-end workflows, data flows from the source is standardized, consolidated and presented, via the middle-office, to key stakeholders including the board, investors, auditors and banking partners.

Integration, using APIs, can enable lots more source information to be pulled into the center than ever before. Scada data, market data and financial data can all be designed into the workflows to enable efficient portfolio performance and risk management.

As the market is set to grow four-fold in the next ten years, with more and more assets finding homes in larger IPPs, funds and on balance sheets of utility players, it pays to think about scale when designing workflows.

Workflows that scale are also of value to the font-office in numerous ways as the data can unlock superior investor returns and lower the investment risk: key selling points for any asset manager looking to raise cheaper sources of capital and grow AUM. Apart from reducing the cost of administration significantly and increasing the asset managers net income, the asset manager and investors can benefit from real-time NAV calculations, assessment of new acquisitions in terms of how they can improve risk/return to the existing portfolio, and synchronization of the M&A models to the actual experience in the portfolio and scenario analysis, e.g. reinvestment decisions.

A solid platform enables scaling into new jurisdictions and enables the ability to exploit co-location opportunity; reconciling revenues from wind, solar, battery and, in time, hydrogen plants co-located or grouped into mini-portfolios.

But the value of the middle-office increases when workflows, systems and people, work in unison. One flow unlocks another and so on. One challenge asset managers have is designing and implementing these workflows from scratch. In response to these challenges, there is a trend towards Data as a Service (DaaS), which negates the need for each asset manager with growth ambitions to build everything in-house. Experience shows that asset managers hoping to cherry pick off-the-shelf systems and combine them into a seamless workflow are mistaken. The architecture of these systems is different, designed to do different jobs and stitching them together always leaves gaps, and gaps erode trust. It is better to adopt core platforms that cover major workflows so that data flows seamlessly and there are no gaps. Post implementation, the asset manager can achieve consistent, reliable, trusted reporting across the organization.

The Economic Argument

In an industry driven by yield and IRRs, it is natural to want to challenge the economics of changing the way you manage your business. Below is a simplified way to thinking about the economics:

The cost of doing nothing

- What do you spend on commercial asset management today?
- What do you spend on your middle office today (resource, recruitment, overheads, training, etc.)?
- What is the cost of capital for the average cash balance you maintain?
- What is the cost of auditing the individual SPVs?
- What do you project the above costs to be in 5 years times, given your targeted growth?

The opportunity cost

- If you could keep the M&A models synchronized using actual portfolio data, how much better would you be at purchasing assets at the right price?
- If you had supplier level benchmarking and market comparables, how much better at managing cost per MW, tendering and contract management would you be?
- If you could automate revenue reconciliation, all the cost journals and descope/remove the commercial asset management services, how much would you save?
- If you could stop doing annual budgets and spend your time on other more valuable exercises, how much capacity would be freed up?

Risk

- We know that investors are looking for risk adjusted returns, and being able to demonstrate systematic reduction in risk should lead to a lower cost of capital.
- If you could trace the cost elements of the NAV process down to the SPV asset-life budget, how much additional confidence would it give you and your investors?
- If you could forecast banking covenants, proactively seek waivers and/or implement working capital facilities to avoid lock-ups and increase trust/confidence with your banking partners by enabling them a real-time view of the finance performance, would it impact on the risk profile of the investments or enable more leverage?
- If you could monitor tax and regulatory compliance in each jurisdiction you operate in and proactively avoid fines, sanctions and resourced, being tied up solving issues, would that enable you to scale faster?.

While some of the above are quantitative measures and other qualitative, they show that there is quite a lot at stake. Getting it wrong means growth is inhibited, profits suffer, and investors/banking partner confidence reduced. Getting it right enables a platform for massive growth where profits margins increase in time.

The cost of doing nothing is far greater than the cost of creating a scalable platform now. Implementation costs will come from the savings made in the existing commercial asset management and middle office costs, making it a virtuous payas-you-save model.

Conclusion

While the middle-office within renewable energy asset managers is still maturing, its future is bright and exciting. It is fast evolving to be the key conduit between the operations and investments; leveraging technology and higher-level data skills to drive the things that have always mattered the most, including financial performance, stakeholder experience, trust in relationships, lower risk, adjusted returns and growth.

For more information about how to scale your back and middle-office please, contact the authors:

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